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oxidizing atmosphere, wherein said heat-treating comprises heating at a temperature of 600 to 1,200° C in a non-oxidizing atmosphere, on the downstream side of a desulfurization apparatus based on the lime-gypsum method.

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21. (amended) The process of claim 6, wherein said starting active carbon fiber is a polyacrylonitrile-based starting active carbon fiber.

22. (amended) The process of claim 7, wherein said starting active carbon fiber is a polyacrylonitrile-based starting active carbon fiber.

* * * * *

Please add the following new claims:

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23. (new) The process of claim 6, wherein said starting active carbon fiber is a pitch-based starting active carbon fiber.

24. (new) The process of claim 7, wherein said starting active carbon fiber is a pitch-based starting active carbon fiber.

25. (new) The process of claim 20, wherein said heat-treating is performed for about an hour.

26. (new) The process of claim 7, wherein said heat-treating is performed for about an hour.

27. (new) The process of claim 23, wherein said pitch-based starting active carbon fiber is formed by melt spinning of pitch obtained as residue in coal chemical or petrochemical processes.

28. (new) The process of claim 24, wherein said pitch-based starting active carbon fiber is formed by melt spinning of pitch obtained as residue in coal chemical or petrochemical processes.

29. (new) The process of claim 6, wherein said active carbon fiber is in corrugated form.

30. (new) The process of claim 7, wherein said active carbon fiber is in corrugated form.

31. (new) The process of claim 21, wherein said polyacrylonitrile-based starting active carbon fiber is formed by firing and carbonizing a high-molecular-weight polyacrylonitrile fiber.

32. (new) The process of claim 22, wherein said polyacrylonitrile-based starting active carbon fiber is formed by firing and carbonizing a high-molecular-weight polyacrylonitrile fiber.

33. (new) The process of claim 6, wherein said heat-treated active carbon fiber is free of exposure to sulfuric acid prior to use.

34. (new) The process of claim 7 wherein said heat-treated active carbon fiber is free of exposure to sulfuric acid prior to use.

35. (new) The process of claim 6, wherein said heat-treated active carbon fiber has substantially all hydrophobic surfaces.

36. (new) The process of claim 7, wherein said heat-treated active carbon fiber has substantially all hydrophobic surfaces.

37. (new) The process of claim 6, wherein said heat-treated active carbon fiber has substantially all hydrophobic surfaces and wherein said heat-treated active carbon fiber is free of exposure to sulfuric acid prior to use.

38. (new) The process of claim 7, wherein said heat-treated active carbon fiber has substantially all hydrophobic surfaces and wherein said heat-treated active carbon fiber is free of exposure to sulfuric acid prior to use.

39. (new) A desulfurization process which comprises bringing a gas containing SO_2, water, and oxygen into contact with a heat-treated active carbon fiber wherein said heat-treated active carbon fiber has been obtained by a process consisting essentially of heat-treating a starting active carbon in a non-oxidizing atmosphere, wherein said starting active carbon is a starting active carbon fiber.

40. (new) A high depth desulfurization process which comprises removing sulfur oxides by using a heat-treated active carbon fiber, wherein said heat-treated active carbon fiber has been obtained by a process consisting essentially of heat-treating a starting active carbon in a non-oxidizing atmosphere, wherein said heat-treating comprises heating at a temperature of 600 to 1,200° C in a non-oxidizing atmosphere, said removal of sulfur oxides occurring on the downstream side of a desulfurization apparatus based on the lime-gypsum method.

41. (new) The process of claim 6, wherein said desulfurization process occurs between about 20° C to about 100° C.

42. (new) The process of claim 7, wherein said desulfurization process occurs between about 20° C to about 100° C.

43. (new) The process of claim 6, wherein said desulfurization process occurs between about 20° C to about 50° C.

44. (new) The process of claim 7, wherein said desulfurization process occurs between about 20° C to about 50° C.

45. (new) The process of claim 6, wherein said desulfurization process occurs with a gas flow rate in the range of about $1x10^{-3}$ to about $5x10^{-3}$ g-min / ml per unit weight of said active carbon.

46. (new) The process of claim 7, wherein said desulfurization process occurs with a gas flow rate in the range of about $1x10^{-3}$ to about $5x10^{-3}$ g-min / ml per unit weight of said active carbon.

47. (new) A desulfurization process which comprises bringing a gas containing SO_2, water, and oxygen into contact with a heat-treated hydrophobic active carbon fiber wherein said heat-treated active carbon fiber has been obtained by heat-treating a starting active carbon in a non-oxidizing atmosphere, wherein said starting active carbon is a starting active carbon fiber, wherein said heat-treating further comprises heat-treating for about an hour, wherein said heat-treated active carbon fiber is free of exposure to sulfuric acid prior to use, wherein said desulfurization process occurs between about 20° C to about 100° C, and wherein said process occurs at a gas flow rate in the range of about $1x10^{-3}$ to about $5x10^{-3}$ g-min / ml per unit weight of said active carbon.

48. (new) A high depth desulfurization process which comprises removing sulfur oxides by using a heat-treated hydrophobic active carbon fiber, wherein said heat-treated active carbon fiber has been obtained by heat-treating a starting active carbon in a non-oxidizing atmosphere, wherein said heat-treating comprises heating at a temperature of 600 to 1,200° C in a non-oxidizing atmosphere, on the downstream side of a desulfurization apparatus based on the lime-gypsum method, wherein said heat-treating further comprises heat-treating for about an hour, wherein said heat-treated active carbon fiber is free of exposure to sulfuric acid prior to use, wherein said desulfurization process occurs between about 20° C to about 100° C, and wherein said process occurs at a gas flow rate in the range of about $1x10^{-3}$ to about $5x10^{-3}$ g-min / ml per unit weight of said active carbon.

49. (new) The process of claim 47, wherein said desulfurization process results in a concentration of sulfur oxides reduced to about 500 ppm or less.

50. (new) The process of claim 48, wherein said desulfurization process results in a concentration of sulfur oxides reduced to about 500 ppm or less.

51. (new) The process of claim 47, wherein said desulfurization process results in a concentration of sulfur oxides reduced to about 50 ppm or less.

52. (new) The process of claim 48, wherein said desulfurization process results in a concentration of sulfur oxides reduced to about 50 ppm or less.